

AMENDMENTS TO THE CLAIMS:

Please cancel claims 27–29 without prejudice. Please amend the remaining claims as follows, substituting any amended claim(s) for the corresponding pending claim(s):

1. (Allowed) A CMOS integrated circuit device comprising:
- a plurality of p-channel transistors formed in active surface areas of n-type regions, wherein the p-channel transistors do not have LDD source/drain regions;
 - a plurality of n-channel transistors formed in isolated active surface areas of p-type regions;
 - gate electrodes for the p-channel and n-channel transistors, the gate electrodes overlying and being insulated from the respective active surface areas, wherein the gate electrodes for the p-channel transistors have a width less than a minimum channel length required for the p-channel transistors;
 - p-type source and drain regions for the p-channel transistors, each p-type source and drain region consisting of a low resistivity region;
 - n-type source and drain regions for the n-channel transistors, each n-type source and drain region having a low resistivity region and an LDD region;
 - each gate electrode having a pair of sidewall spacers each having an inner and an outer portion, wherein the inner portions of the sidewall spacers for each p-channel transistor gate electrode has a width which, taken on each side of the respective gate electrode for the respective

15 p-channel transistor and combined with the width of the respective gate electrode for the respective
16 p-channel transistor, exceeds a minimum channel length for the respective p-channel transistor;
17 each p-channel low resistivity region located under the outer portion and at least a part of the
18 inner portion of its respective sidewall spacer;
19 each n-channel low resistivity region located under at least a part of the outer portion and a
20 part of the inner portion of its respective sidewall spacer; and
21 each n-channel LDD region extending from its respective low resistivity region to underlie
22 the inner portion of its respective sidewall spacer.

1 2. (Allowed) The integrated circuit of claim 1, wherein the inner portion of the sidewall spacer
2 comprises an oxide.

1 3. (Allowed) The integrated circuit of claim 1, wherein the inner portion of the sidewall spacer
2 comprises an oxide.

1 4. (Allowed) The integrated circuit of claim 1, wherein the p-channel source and drain
2 comprise silicon implanted with BF_2 .

1 5. (Allowed) The integrated circuit of claim 1, wherein:

2 the distance between low resistivity regions of the source and drain regions of the p-channel
3 transistor is between the p-channel minimum length and the p-channel maximum length, wherein:

4 the p-channel minimum length is a distance below which the transistor will not
5 operate reliably due to short channel effects; and

6 the p-channel maximum length is a distance above which the transistor will not turn
7 on efficiently.

1 6. (Allowed) The integrated circuit of claim 1, wherein:

2 the distance between the low resistivity regions of the n-channel transistor is between the n-
3 channel minimum LDD length and the n-channel maximum LDD length, wherein:

4 the n-channel minimum LDD length is a distance below which the transistor will not
5 operate reliably due to short channel effects; and

6 the n-channel maximum LDD length is a distance above which the transistor will not
7 turn on efficiently.

1 7. (Allowed) The integrated circuit of claim 1, wherein the sidewall spacers have a total width
2 of approximately 500 to 2500 Å.

Claims 8–26 previously canceled.

Claims 27–29 canceled herein.

1 30. (Currently Amended) ~~The~~A CMOS integrated circuit structure ~~of claim 29~~, comprising:
2 an n-channel transistor including lightly doped source and drain regions within a p-type
3 region of a substrate; and
4 a p-channel transistor without lightly doped source and drain regions within an n-type region
5 of the substrate, the p-channel transistor including:
6 a gate electrode having a width less than a channel length of a channel for the p-
7 channel transistor; and
8 first sidewall spacer regions adjacent opposing sides of the gate electrode and
9 overlying at least a portion of the channel for the p-channel transistor and portions of source
10 and drain regions for the p-channel transistor,
11 wherein the width of the gate electrode is less than a minimum channel length required for
12 the p-channel transistor,
13 wherein the first sidewall spacer regions have a width which, taken on opposing sides of the
14 gate electrode and combined with the width of the gate electrode, exceeds the minimum channel
15 length required for the p-channel transistor, and

16 wherein the width of the first sidewall spacer regions, taken on opposing sides of the gate
17 electrode and combined with the width of the gate electrode, exceeds the minimum channel length
18 required for the p-channel transistor plus a diffusion distance for implanted dopants forming source
19 and drain regions for the p-channel transistor.

31. (Previously Amended) The CMOS integrated circuit structure of claim 30, further
comprising:

second sidewall spacer regions adjacent the first sidewall spacer regions and overlying source
and drain regions for the p-channel transistor.

32. (Previously Added) The CMOS integrated circuit structure of claim 30, wherein the n-
channel transistor further comprises:

a gate electrode having a width approximately equal to a minimum channel length required
for the n-channel transistor; and

sidewall spacers adjacent to opposing sides of the n-channel transistor gate electrode and
overlying the lightly doped source and drain regions.

1 33. (Allowed) An intermediate structure for use in forming a CMOS integrated circuit,
Fig. 7 2 comprising:

3 a p-type region for an n-channel transistor including lightly doped source and drain regions;

4 an n-type region for a p-channel transistor without lightly doped source and drain regions;

5 a gate electrode overlying a portion of the n-type region, the gate electrode having a width
6 less than a minimum channel length required for the p-channel transistor; and

7 at least one conformal insulating layer over a top and sides of the gate electrode, the
8 insulating layer having a thickness which, taken on opposing sides of the gate electrode and
9 combined with the width of the gate electrode, exceeds a minimum channel length required for the
10 p-channel transistor.

1 34. (Allowed) The intermediate structure of claim 33, wherein the insulating layer forms a mask
2 for implanting source and drain regions for the p-channel transistor.

1 35. (Allowed) The intermediate structure of claim 34, wherein the insulating layer has a
2 thickness which, taken on opposing sides of the gate electrode and combined with the width of the
3 gate electrode, exceeds the minimum channel length required for the p-channel transistor plus a
4 diffusion distance for implanted dopants forming the source and drain regions for the p-channel
5 transistor.

0 1 36. (Allowed) The intermediate structure of claim 35, further comprising:
2 source and drain regions for the p-channel transistor within the n-type region, wherein edges
3 of the source and drain regions are spaced apart from the sides of the gate electrode.

1 37. (Allowed) The intermediate structure of claim 36, wherein the source and drain regions are
2 low resistivity regions.

1 38. (Allowed) The intermediate structure of claim 33, further comprising:
2 second insulating layer overlying the first insulating layer to form sidewall spacers adjacent
3 the gate electrode upon etching of the insulating layer and the second insulating layer.

1 39. (Allowed) The intermediate structure of claim 33, further comprising:
2 a n-channel transistor gate electrode overlying a portion of the p-type region;
3 lightly doped source and drain regions within the p-type region aligned with the n-channel
transistor gate electrode.
